



January 11, 2016  
NND-16-0004  
10 CFR 52.99(c)(1)

U. S. Nuclear Regulatory Commission  
Attn: Document Control Desk  
Washington, DC 20555-0001

Subject: Virgil C. Summer Nuclear Station (VCSNS) Unit 2  
Combined License No. NPF-93  
Docket Number 52-027  
ITAAC Closure Notification for 2.3.06.09b.i [Index Number 374]

Attachments: References

The purpose of this letter is to notify the Nuclear Regulatory Commission (NRC) in accordance with 10 CFR 52.99(c)(1) of the completion of Virgil C. Summer Nuclear Station (VCSNS) Unit 2 Inspections, Tests, Analyses, and Acceptance Criteria (ITAAC) Item 2.3.06.09b.i for verifying that a report exists and concludes that the product of the overall heat transfer coefficient and the effective heat transfer area, UA, of each RNS heat exchanger is greater than or equal to 2.2 million Btu/hr-°F. The closure process for this ITAAC is based on the guidance described in NEI 08-01, Industry Guideline for the ITAAC Closure Process under 10 CFR Part 52 (Reference 1), which was endorsed by the NRC in Regulatory Guide 1.215.

### **ITAAC Statement**

#### **Design Commitment:**

*9.b) The RNS provides heat removal from the reactor coolant during shutdown operations.*

#### **Inspections, Tests, Analyses:**

*i) Inspection will be performed for the existence of a report that determines the heat removal capability of the RNS heat exchangers.*

#### **Acceptance Criteria:**

*i) A report exists and concludes that the product of the overall heat transfer coefficient and the effective heat transfer area, UA, of each RNS heat exchanger is greater than or equal to 2.2 million Btu/hr-°F.*

### **ITAAC Determination Basis**

Multiple ITAAC are performed to demonstrate that the RNS provides the nonsafety-related functions of heat removal from the reactor coolant during shutdown operations. This ITAAC verifies the heat transfer capability of the RNS heat exchangers, RNS-ME-01A and RNS-ME-01B.

A report exists and concludes that the acceptance criteria are met and that the product of the overall heat transfer coefficient and the effective heat transfer area, UA, for each RNS heat exchanger is greater than or equal to the value specified in the acceptance criteria as 2.2 million Btu/hr-°F.

Through thermal analysis using industry standard heat transfer software, the vendor validated that the RNS heat exchangers are capable of meeting the specified heat transfer performance requirements. The AP1000 ME1C RNS Normal Residual Heat Removal Heat Exchanger Design Report (Reference 2) was generated identifying the heat exchangers' design and performance characteristics, including the overall heat transfer coefficient, U, and the effective heat transfer area, A, for each heat exchanger.

An inspection was performed of the AP1000 ME1C RNS Normal Residual Heat Removal Heat Exchanger Design Report. The purpose of the inspection was to confirm that the product of the overall heat transfer coefficient and the effective heat transfer area, UA, of each RNS heat exchanger was greater than or equal to 2.2 million Btu/hr-°F. The product of the overall heat transfer coefficient and the effective heat transfer area, UA, of each RNS heat exchanger was at least 3.044 million Btu/hr-°F.

The AP1000 ME1C RNS Normal Residual Heat Removal Heat Exchanger Design Report exists and concludes that the product of the overall heat transfer coefficient and the effective heat transfer area, UA, of each RNS heat exchanger is greater than or equal to 2.2 million Btu/hr-°F.

### **ITAAC Finding Review**

In accordance with plant procedures for ITAAC completion, SCE&G performed a review of all findings pertaining to the subject ITAAC and associated corrective actions. This review found that there are no relevant ITAAC findings associated with this ITAAC. The ITAAC completion review is documented in the ITAAC Completion Package for ITAAC 2.3.06.09b.i (Reference 3) and available for NRC inspection.

### **ITAAC Completion Statement**

Based on the above information, SCE&G hereby notifies the NRC that ITAAC 2.3.06.09b.i was performed for VCSNS Unit 2 and that the prescribed acceptance criteria are met.

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Systems, structures, and components verified as part of this ITAAC are being maintained in their as-designed, ITAAC compliant condition in accordance with approved plant programs and procedures.

We request NRC staff confirmation of this determination and publication of the required notice in the Federal Register per 10 CFR 52.99(e)(1).

If there are any questions, please contact Nick Kellenberger at (803) 941-9834.

Sincerely,

A handwritten signature in black ink, appearing to read "April R. Rice". The signature is written in a cursive style with a large initial "A" and "R".

April R. Rice  
Manager  
Nuclear Licensing  
New Nuclear Deployment

NK/AR/vk

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**References (available for NRC inspection):**

1. NEI 08-01, Industry Guideline for the ITAAC Closure Process Under 10 CFR Part 52.
2. APP-ME1C-VDR-001 Revision 1, AP1000 ME1C RNS Normal Residual Heat Removal Heat Exchanger Design Report
3. V.C. Summer Unit 2 ITAAC 2.3.06.09b.i Completion Package